

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of: Wittich KAULE et al.

Application Serial No: 10/565,157

Filing Date: January 19, 2006

Title: Security Element With a Diffraction
Structure Having Subareas Representing
Recognizable Information

Group Art Unit: 2872

Examiner: Jade R. CALLAWAY

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APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

Sir:

The following comprises Appellants' Brief on Appeal from the final rejection, dated October 16, 2009, of claims 1-5, 9-12, 39, 48, 59, 62, 63, and 76. This Brief is being filed on June 15, 2010, with the required brief fee set forth in 37 C.F.R. § 41.20(b)(2). Appellants hereby petition for a two-month extension of time under 37 C.F.R. § 1.136(a) and submit the required fee herewith. Therefore, this Brief is timely filed on June 15, 2010, within four-months of the February 16, 2010, Notice of Appeal.

I. REAL PARTY IN INTEREST

The owner of the above-referenced patent application and real party in interest in this appeal is the Assignee GIESECKE & DEVRIENT GmbH, located in München, Germany.

II. RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals, interferences or judicial proceedings known to Appellants, Appellants' legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

This application was filed with claims 1-57. Claims 58-75 were added by a Preliminary Amendment. Claim 76 was added by amendment on April 21, 2008. Claims 6-8, 13-38, 40-47, 49-58, 60-61, and 64-75 were canceled by amendment on November 7, 2008.

Accordingly, claims 1-5, 9-12, 39, 48, 59, 62, 63, and 76 are pending in the application, and claims 6-8, 13-38, 40-47, 49-58, 60-61, and 64-75 are cancelled. Claims 1-3, 9, 12, 39, 48, and 76 stand rejected under 35 U.S.C. § 102(b) as set forth in the Final Office Action dated October 16, 2009. Claims 4-5, 10-11, 59, 62, and 63 stand rejected under 35 U.S.C. § 103(a) as set forth in the Final Office Action dated October 16, 2009. The rejections of claims 1-5, 9-12, 39, 48, 59, 62, 63, and 76 as set forth in the October 16, 2009, Final Office Action are being appealed.

IV. STATUS OF AMENDMENTS

No other claim amendments have been filed since the Final Office Action dated October 16, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention provides novel and non-obvious security elements and methods of producing novel and non-obvious security elements. Substitute Specification at page 1, lines 10-16 (hereinafter citations to the Substitute Specification are made as "Appln. p. #, lns. ##").

Documents (e.g., documents of value and identification documents), commercial goods, and consumer durables (or their packaging) are often equipped with special security features for the purpose of preventing forgery and verifying authenticity. Appln. p. 1, lns. 18-21. Unfortunately, due to the ready availability of modern color copying machines, high-resolution scanners, and/or color printers, even poorly trained individuals can manufacture high quality reproductions of authentic items. Appln. p. 1, lns. 21-23. To prevent forgeries from being so manufactured, optically variable security elements have proved useful. Appln. p. 1, lns. 24-26. Such security elements may have optical diffraction structures, which under different viewing angles reconstruct diffractive images. Appln. p. 1, lns. 26-28. This type of security element cannot be reproduced using the usual and widespread copying and printing techniques. Appln. p. 1, lns. 28-29. However, producing optically variable security elements has, in the past, proved to

be a complex and costly undertaking, and thus not suitable for large scale production. Appln. p. 2, lns. 13-23.

The claimed invention allows optically variable security elements to be produced quickly and with reasonable effort, thus allowing optically variable security elements to be utilized for large scale production. Appln. p. 2, lns. 26-28. The optically variable images (i.e., diffractive images) are reconstructed when the diffraction structure is viewed in reflected light at either an oblique or perpendicular viewing angel. Appln. p. 4, lns. 16-22. Additionally, the claimed invention includes placing individual information in subareas (free of diffraction structures) in the area of the security element that has diffraction structures. Appln. p. 5, lns. 10-20.

Claim 1 defines a security element. Appln. p. 2, lns. 30 – p. 3, lns. 11. The security element has at least one area with a diffraction structure embossed during an embossing process with an embossing die. Appln. p. 31, lns. 10-12. Under specific viewing conditions, the diffraction structure reconstructs a diffractive image. Appln. p. 2, lns. 30 – p. 3, lns. 11. The at least one area also has subareas that are free of any diffraction structures. Appln. p. 2, lns. 30 – p. 3, lns. 11; p. 5, lns. 21-22. The subareas do not take part in the reconstruction of the diffractive image. Appln. p. 2, lns. 30 – p. 3, lns. 11; p. 5, lns. 13-17. The subareas represent recognizable information. Appln. p. 2, lns. 30 – p. 3, lns. 11. According to claim 1, the subareas and the diffraction structure surrounding the subareas have the same, or at least very similar, reflecting properties under particular viewing conditions. Id. Under these viewing conditions the diffraction structure does not represent a diffractive image. Id. Thus, the recognizable information represented by the subareas is recognizable substantially only under the specific viewing conditions. Id. Further, claim 1 provides that at least one of the subareas is produced during the embossing process with the embossing die already providing the at least one of the subareas being free of any diffraction structures. Appln. p. 5, lns. 21-23.

Claim 9 defines a security element. Appln. p. 2, lns. 30 – p. 3, lns. 11. The security element has at least one area with a diffraction structure embossed during an embossing process with an embossing die. Appln. p. 31, lns. 10-12. Under specific viewing conditions, the diffraction structure reconstructs a diffractive image. Appln. p. 3, lns. 5-6. The at least one area also has subareas being free of any diffraction structures. Appln. p. 5, lns. 21-22. The subareas do not take part in the reconstruction of the diffractive image. Appln. p. 5, lns. 13-17. The subareas represent recognizable information. Appln. p. 3, lns. 1-5. The subareas form a non-

diffractive contrast image, so that the recognizable information represented by the subareas is recognizable under viewing conditions differing from the specific viewing conditions of the diffractive image. Appln. p. 5, lns. 13-17; p. 6, lns. 25-31. Further, claim 9 provides that at least one of the subareas is produced during the embossing process with the embossing die already providing the at least one of the subareas being free of any diffraction structures. Appln. p. 5, lns. 21-23.

Claim 39 defines a method for producing a security element. The method includes the step of embossing during an embossing process with an embossing die at least one area with a diffraction structure, which under specific viewing conditions reconstructs a diffractive image. Appln. p. 2, lns. 30 – p. 3, lns. 11; p. 31, lns. 10-18. The method further includes the step of producing subareas in the area that do not take part in the reconstruction of the diffractive image. Appln. p. 5, lns. 13-17. These subareas represent recognizable information and are integrated in the area with the diffraction structure. Appln. p. 3, lns. 1-5. The subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties in viewing conditions under which the diffraction structure does not represent a diffractive image, so that the recognizable information represented by the subareas is recognizable mainly only under the specific viewing conditions of the diffractive image. Appln. p. 2, lns. 30 – p. 3, lns. 11. Further, claim 39 provides that at least one of the subareas is produced during the embossing process with the embossing die already providing the at least one the subareas being free of any diffraction structures. Appln. p. 5, lns. 21-23.

Claim 48 defines a method for producing a security element. The method includes the step of embossing, during an embossing process with an embossing die, at least one area with a diffraction structure that under specific viewing conditions reconstructs a diffractive image. Appln. p. 3, lns. 5-6; p. 31, lns. 10-18. The method further includes the step of producing subareas in the area which do not take part in the reconstruction of the diffractive image. Appln. p. 5, lns. 13-17. These subareas represent recognizable information, and are integrated in the area with the diffraction structure. Appln. p. 3, lns. 1-5. The subareas form a non-diffractive contrast image, so that the recognizable information represented by the subareas is recognizable under viewing conditions differing from the specific viewing conditions of the diffractive image. Appln. p. 5, lns. 13-17; p. 6, lns. 25-31. Further, claim 48 provides that at least one of the

subareas is produced during the embossing process with the embossing die already providing the at least one of the subareas being free of any diffraction structures. Appln. p. 5, lns. 21-23.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following issues are presented by this appeal:

- (1) Whether claims 1-3, 9, 12, 39, 48, and 76 are anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 6,491,324 to Schmitz et al. ("Schmitz"); and
- (2) Whether claims 4-5, 10-11, 59, 62, and 63 are unpatentable over Schmitz and U.S. Published Patent Application No. 2004/0101676 to Phillips et al. ("Phillips").

VII. ARGUMENT

A. Claims 1-3, 9, 12, 39, 48, and 76 are not anticipated by Schmitz.

Claims 1-3, 9, 12, 39, 48, and 76 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Schmitz. As set forth in detail below, the Examiner's rejection of claims 1-3, 9, 12, 39, 48, and 76 is improper for numerous reasons and should be reversed.

A rejection under 35 U.S.C. § 102 requires a finding that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987). Furthermore, the reference must also disclose those elements in the same way that they are arranged in the claim. Sanofi-Synthelabo v. Apotex, Inc., 550 F.3d 1075, 1083 (Fed. Cir. 2008). That is, the reference must disclose the claimed invention without any need for picking, choosing, and combining various different disclosures or embodiments of the reference that are not directly related to each other. Id. (citing In re Arkley, 455 F.2d 586 (C.C.P.A. 1972)).

Schmitz is generally directed to a security document having a magnetic layer and a semitransparent layer covering the magnetic layer. See Schmitz Abstract; col. 1, lns. 6-10; col. 2, lns. 8-10. The magnetic layer serves as a security element and is normally visible as a dark stripe. See Schmitz col. 1, lns. 16-20. More particularly, Schmitz aims to provide a security document that has a magnetic layer that is barely visible in reflected light. See Schmitz Abstract; col. 5, lns. 26-28. In order to achieve this, the security document is provided with a semitransparent layer that is disposed over the magnetic layer. Id. The magnetic layer can

contain gaps in the form of visually and/or machine recognizable characters. See Schmitz col. 2, lns. 48-50. The gaps (and any information encoded therein) are visible only when viewed using transmitted light. See Schmitz col. 5, lns. 22-24; col. 5, lns. 25-27, 62-65; col. 7, lns. 22-25.

Transmitted light, as used in Schmitz, means light that is transmitted from the side of the carrier that does not support the magnetic layer, through the carrier, and through any gaps in the magnetic layer. See Schmitz col. 6, lns. 1-9. While the magnetic layer 5 blocks a portion of the transmitted light, the transmitted light that passes through the gaps 10 is visible, and thus can reveal information represented in the gaps 10. According to Schmitz, a diffraction structure, which may be an embossed structure, is disposed over the magnetic layer. See Schmitz Figs. 7 and 8 (ref. # 13), col. 6, lns. 60 to 63; col. 8, lns. 13-16. Schmitz discloses that a lacquer layer 13, on which a diffraction structure may be formed, is applied over, inter alia, the magnetic layer 5, and that the magnetic layer 5 has gaps 10. See Schmitz Fig. 8 and col. 6, lns. 51-65.

Additionally, Schmitz discloses that the diffraction structure 13 can be formed on the opposite side of a carrier 4 from the magnetic layer 5. See Schmitz Fig. 7 and col. 6, lns. 10-30. In each of the embodiments described in Schmitz the diffraction structure is formed on a different layer in a different plane than the magnetic layer.

Claim 1:

Schmitz fails to disclose each and every limitation of claim 1, as is required to maintain a rejection under 35 U.S.C. § 102(b). Schmitz fails to disclose “[a] security element, which has at least one area with a diffraction structure...wherein the area has subareas being free of any diffraction structures [and that] the subareas do not take part in the reconstruction of the diffractive image,” as recited in claim 1. The Examiner has asserted that this limitation is disclosed at col. 6, lns. 10-50 of Schmitz which describe Fig. 7 (shown below). See Advisory Action dated January 14, 2010.

FIG. 7

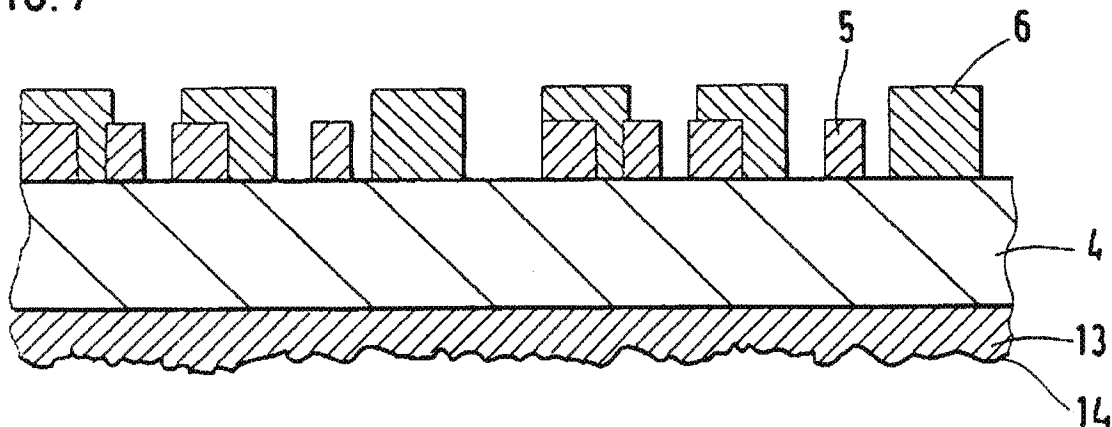


Fig. 7 shows a magnetic layer 5 having gaps and a diffraction layer 13. See Schmitz col. 6, lns. 10-30. However, the gaps in the magnetic layer 5 are not subareas of the area containing diffraction structure 13. Rather, the gaps are in one area that contains the magnetic layer 5 and the diffraction structure 13 is in a different "area." In fact, the area of the magnetic layer 5 and the area of the diffraction structure 13 are separated by carrier 4. In contrast to the invention of Schmitz, the current invention requires the subareas to be part of the "area with a diffraction structure."

For example, Fig. 23 of the current application (shown below) illustrates an embossing die for creating a diffraction structure, according to the present invention. Appln. p. 31, lns. 10-18.

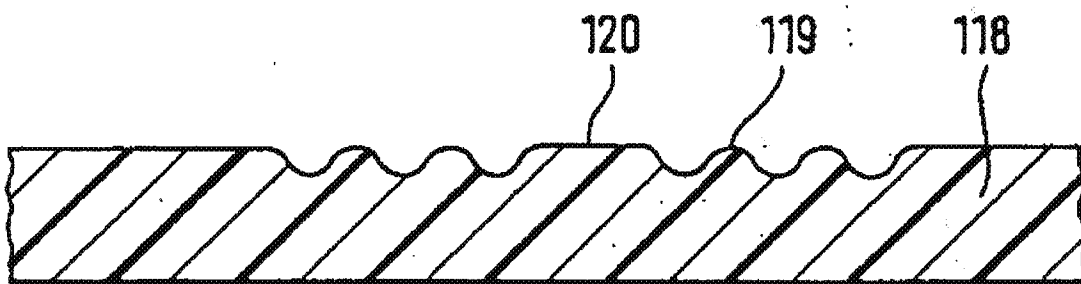


FIG. 23

According to the present invention, a diffraction structure 119 is transferred to plastic or embossable lacquer layer. Id. During the same embossing process, the subareas are likewise transferred to the plastic or embossable lacquer layer at 120, where the diffraction structure 119

has been destroyed. Id. Thus, the area of the present invention contains a diffraction structure (the embossed image of 119) and subareas where no diffraction structure has been embossed because these subareas correspond to the portions of the embossing die which have no diffraction structure to transfer. As described above, this distinction is important.

Additionally, the Examiner has noted “that the phrase ‘free of any diffraction structures’ does not specify that any thickness above or below the subareas cannot have a diffraction structure, rather only that the subareas itself (i.e. gaps 10) does not include a diffraction structure.” See Advisory Action dated January 14, 2010. This interpretation of the claim is fundamentally incorrect and nevertheless fails to change the fact that the diffraction structure of Schmitz is in one area and the gaps in the magnetic layer is in another wholly separate area. Thus, Schmitz fails to disclose a security element having “subareas [of the area having a diffraction structure] being free of any diffraction structures the subareas do not take part in the reconstruction of the diffractive image,” as recited in claim 1. For at least this reason, the Examiner’s rejection of claim 1 is improper and should be reversed.

Further, Schmitz fails to disclose that “the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties under viewing conditions, under which the diffraction structure does not represent a diffractive image, so that the recognizable information represented by the subareas is recognizable substantially only under the specific viewing conditions,” as recited in claim 1. In fact, Schmitz discloses precisely the opposite. In Schmitz, as described above, the gaps (and any information encoded therein) are visible only when viewed using transmitted light and are virtually invisible in reflected light. See Schmitz col. 5, lns. 22-28; col. 5, lns. 25-27, 62-65; col. 7, lns. 22-25. Additionally, Schmitz discloses that the optically variable effects (i.e., diffractive images) are visible only in reflected light. See Schmitz col. 5, lns. 26-27; col. 6, lns. 25-27, 62-65; col. 7, lns. 22-25. Thus, according to Schmitz, the diffractive image is visible in reflected light and the gaps (and any information encoded therein) are not visible in reflected light. For this reason, Schmitz does not disclose “that the recognizable information represented by the subareas is recognizable substantially only under the specific viewing conditions,” as recited in claim 1, because it would require that both the optically variable effects and gaps of Schmitz be visible in reflected light. For this additional reason, the Examiner’s rejection of claim 1 is improper and should be reversed.

Claim 2:

Claim 2 includes all the limitations of claim 1, as discussed above, and additionally the limitation that “the area has a first reflection layer, which supports the reconstruction of the diffractive image.” All of the arguments made above with regard to claim 1 likewise apply to claim 2. For at least this reason the Examiner’s rejection of claim 2 is improper and should be reversed.

Claim 76:

Claim 76 is being addressed out of numerical order because it depends from claim 1, and because claims 3 and 4 depend from claim 76.

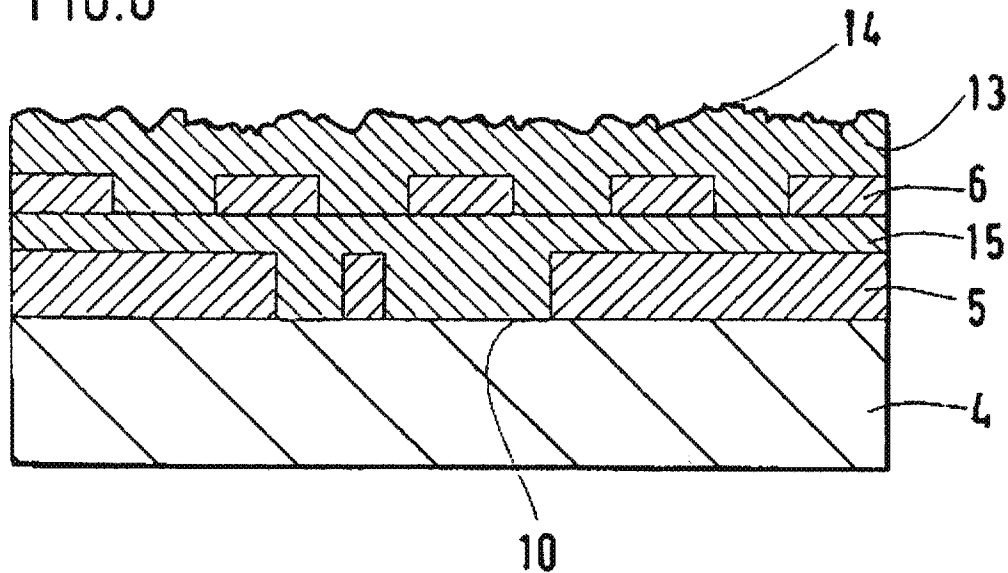
Claim 76 includes all the limitations of claim 1, as discussed above, and additionally the limitation of “the information represented by the subareas is recognizable substantially only under the specific viewing conditions of the diffractive image.” All of the arguments made above with regard to claim 1 likewise apply to claim 76. For at least this reason the Examiner’s rejection of claim 76 is improper and should be reversed.

Claim 3:

Claim 3 includes all the limitations of claims 1 and 76, as discussed above, and additionally the limitation of “the subareas have no diffraction structure, and that the first reflection layer is disposed in both the area of the diffraction structure and the area of the subareas.” All of the arguments made above with regard to claims 1 and 76 likewise apply to claim 3. For at least this reason the Examiner’s rejection of claim 3 should be reversed.

Additionally, the Examiner argues that Fig. 8 of Schmitz, as shown below, discloses “the first reflection layer [being] disposed in both the area of the diffraction structure and the area of the subareas.” See Final Office Action dated October 16, 2009, p. 4.

FIG.8



Specifically, the Examiner asserts reflective layer 14 extends over both the gaps 10 in the magnetic layer 5 and diffraction structure 13. Id. This position is inconsistent with the Examiner's argument that the alleged subareas (gaps 10) are free of any diffraction structure 13 because claim 1 "does not specify that any thickness above or below the subarea cannot have a diffraction structure." See Advisory Action dated January 14, 2010. That is, in claims 1, 9, 39, and 48 the Examiner interprets subareas as being limited to only the space of the gaps 10, while in claim 3 the Examiner wants inconsistently to extend the subareas to include the space above the gaps 10. If the subareas include the space above the gaps 10, then the subareas likewise include the diffraction structure 13.

The Examiner wants the subareas to be interpreted one way for independent claim 1 and in a contradictory way for dependent claim 3. The Examiner cannot be allowed to maintain contradictory interpretations of a claim. Thus, Appellants assert that when the claim is interpreted consistently with the Examiner's previous interpretation of claim 1, the reflecting layer 14 is not disposed in the area of the subareas, but rather in a separate area that is distinct from the subareas. Conversely, when claims 1, 9, 39, and 48 are interpreted according to the Examiner's interpretation of claim 3, alleged subareas (gaps 10) are not free of the diffraction structure, as is required by each of claims 1, 9, 39, and 48. For this additional reason, the Examiner's rejection of claim 3 is improper and should be reversed.

Claim 9:

Schmitz fails to disclose each and every limitation of claim 9, as is required to maintain a rejection under 35 U.S.C. § 102(b). Specifically, Schmitz fails to disclose “[a] security element, which has at least one area with a diffraction structure...wherein the area has subareas being free of any diffraction structures, the subareas do not take part in the reconstruction of the diffractive image,” as recited in claim 9. This limitation is identical to the limitation of claim 1, as discussed in detail above. For the same reasons Schmitz fails to disclose this limitation in claim 1, it likewise fails to disclose this limitation as recited in claim 9. For at least this reason, the Examiner’s rejection is improper and should be reversed.

Further, Schmitz fails to disclose that “the subareas do not take part in the reconstruction of the diffractive image and represent a recognizable information, wherein the subareas form a not diffractive contrast image, so that the recognizable information represented by the subareas is recognizable under viewing conditions differing from the specific viewing conditions of the diffractive image,” as recited in claim 9. This limitation requires the recognizable information to be visible under viewing conditions that are different from the viewing conditions that allow for the reconstruction of the diffractive image. For example, if a diffractive image is reconstructed when viewed in reflected light at an oblique angle, the recognizable information would be visible in all other viewing conditions, such as when viewed in reflected light at a perpendicular angle. Thus, the invention, as claimed in claim 9, is directed to a security element that has recognizable information that is visible in reflected light when viewed at an angle that is different from the angle that allows for the reconstruction of the diffractive image.

Schmitz discloses that the gaps (and any information encoded therein) are visible only when viewed using transmitted light and are virtually invisible in reflected light. See Schmitz col. 5, lns. 22-28; col. 5, lns. 25-27, 62-65; col. 7, lns. 22-25. Schmitz does not disclose the above recited limitation, because the invention of Schmitz fails to allow for the diffractive image and the recognizable information to be visible from different angles in reflected light. For this additional reason, the Examiner’s rejection is improper and should be reversed.

Claim 12:

Claim 12 includes all the limitations of claim 9, as discussed above, and additionally the limitation of “the area is disposed on a transparent carrier, so that the information represented by the subareas is recognizable in transmitted light.” All of the arguments made above with regard to claim 9 likewise apply to claim 12. For at least this reason the rejection of claim 12 is improper and should be reversed.

Claim 39:

Schmitz fails to disclose each and every limitation of claim 39, as is required to maintain a rejection under 35 U.S.C. § 102(b). Specifically, Schmitz fails to disclose “[a] method for producing a security element, comprising...producing subareas of the area which do not take part in the reconstruction of the diffractive image, represents a recognizable information, and are integrated in the area with the diffraction structure,” as recited in claim 39. As discussed above with regard to claims 1 and 9, Schmitz discloses gaps formed in the magnetic layer 5; however, these gaps are in one area that contains the magnetic layer 5 and the diffraction structure 13 is in a different area. See Schmitz Fig. 7 and col. 6. Again, according to Schmitz the area of the magnetic layer 5 and the area of the diffraction structure 13 are separated by carrier 4. Id. As set forth in the claim and described in detail above, the current invention requires the subareas to be part of the “area with the diffraction structure.” This is not disclosed in Schmitz. For at least this reason, the Examiner’s rejection is improper and should be reversed.

Further, Schmitz fails to disclose that “the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties under viewing conditions, under which the diffraction structure does not represent a diffractive image, so that the recognizable information represented by the subareas is recognizable mainly only under the specific viewing conditions of the diffractive image,” as recited in claim 39. This limitation is identical to the limitation of claim 1, as discussed in detail above. For the same reasons Schmitz fails to disclose this limitation in claim 1, it likewise fails to disclose this limitation as recited in claim 39. For this additional reason, the Examiner’s rejection is improper and should be reversed.

Moreover, Schmitz fails to disclose “[a] method for producing a security element, comprising embossing during an embossing process with an embossing die at least one area with a diffraction structure... at least one of said subareas is produced during the embossing process

with the embossing die,” as recited in claim 39. That is, according to claim 39, the diffraction structure and the subareas that are free of diffraction structure are produced during the same embossing process with the same embossing die. For example, the embossing die shown in Fig. 23, as shown above. Logically, this also requires that the diffraction structure and the subareas be in or approximately in the same plane, and that the diffraction structure and the subareas not be separated by any additional layers.

The security element of Schmitz cannot be produced by “embossing during an embossing process with an embossing die at least one area with a diffraction structure... at least one of said subareas is produced during the embossing process with the embossing die.” The alleged subareas of Schmitz are gaps 10 in the magnetic layer 5. According to Fig. 7 of Schmitz, as shown above, the magnetic layer 5 and the lacquer layer 13 on which a diffraction structure can be embossed are on wholly different planes and are separated by the carrier 4. See Schmitz col. 6, Ins. 10-30. Additionally, according to Fig. 8 of Schmitz, as shown above, the magnetic layer 5 and the lacquer layer 13 on which a diffraction structure can be embossed are on wholly different planes and are separated by a cover layer 6 and a transparent lacquer layer 15. See Schmitz col. 6, Ins. 53-65. Because it would be impossible for the embossing die to contact both the magnetic layer 5 and the lacquer layer 13 of Schmitz during the same embossing process, the security element of Schmitz cannot have been produced using the claimed method. Thus, Schmitz does not disclose the claimed method. For this additional reason, the Examiner’s rejection is improper and should be reversed.

Claim 48:

Schmitz fails to disclose each and every limitation of claim 48, as is required to maintain a rejection under 35 U.S.C. § 102(b). Specifically, Schmitz fails to disclose “[a] method for producing a security element, comprising...producing subareas of the area which do not take part in the reconstruction of the diffractive image, represent a recognizable information and are integrated in the area with the diffraction structure,” as recited in claim 48. As discussed above with regard to claims 1, 9 and 39, Schmitz discloses gaps formed in the magnetic layer 5; however, these gaps are in one area that contains the magnetic layer 5 and the diffraction structure 13 is in a different area. See Schmitz Fig. 7 and col. 6. Again, according to Schmitz the area of the magnetic layer 5 and the area of the diffraction structure 13 are separated by carrier 4. Id. As set forth in the claim and described in detail above, the current invention

requires the subareas to be part of the “area with the diffraction structure.” This is not disclosed in Schmitz. For at least this reason, the Examiner’s rejection is improper and should be reversed. For at least this reason, the Examiner’s rejection is improper and should be reversed.

Further, Schmitz fails to disclose “producing subareas of the area which do not take part in the reconstruction of the diffractive image, represent a recognizable information and are integrated in the area with the diffraction structure such that the subareas form a not diffractive contrast image, so that the recognizable information represented by the subareas is recognizable under viewing conditions differing from the specific viewing conditions of the diffractive image,” as is recited in claim 48. This limitation is virtually identical to the limitation of claim 9, as discussed in detail above. For the same reasons Schmitz fails to disclose this limitation in claim 9, it likewise fails to disclose this limitation as recited in claim 48. For this additional reason, the Examiner’s rejection is improper and should be reversed.

Moreover, Schmitz fails to disclose “[a] method for producing a security element, comprising embossing during an embossing process with an embossing die at least one area with a diffraction structure... at least one of said subareas is produced during the embossing process with the embossing die,” as recited in claim 48. This limitation is identical to the limitation of claim 39, as discussed in detail above. For the same reasons Schmitz fails to disclose the limitation in claim 39, it likewise fails to disclose this limitation as recited in claim 48. For at least this reason, the Examiner’s rejection is improper and should be reversed.

B. Claims 4-5, 10-11, 59, 62, and 63 are not obvious in view of Schmitz and Phillips.

Claims 4-5, 10-11, 59, 62, and 63 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Schmitz in view of Phillips. As set forth in detail below, the rejection of claims 1-3, 9, 12, 39, 48, and 76 is improper for numerous reasons and should be reversed.

To determine obviousness, Title 35 requires an examination of the claimed subject matter as a whole to ascertain whether it would have been obvious at the time the invention was made. See 35 U.S.C. § 103(a). Courts must determine whether the claimed subject matter would have been obvious in the context of the Graham factors. See KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 405 (2007) (citing Graham v. John Deere Co., 383 U.S. 1, 13-14 (1966)); see also In re Kahn, 441 F.3d 977, 985 (Fed. Cir. 2006). In KSR, the Supreme Court stated:

Under § 103, the scope and content of the prior are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

550 U.S. at 405 (quoting Graham, 383 U.S. at 17-18). The Supreme Court also observed that when making an obviousness rejection, the Examiner's analysis should be explicit. KSR, 550 U.S. at 418 ("To facilitate review, this analysis should be made explicit.") (citing In re Kahn, 441 F.3d at 988 and quoting "[Rejections cannot] be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."). When determining what a prior art reference teaches, the prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (emphasis added).

In KSR, the Supreme Court observed that even in the event that the prior art demonstrates each element, a claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. KSR, 550 U.S. at 418. In light of the Supreme Court's decision in KSR, "[i]t remains necessary to show some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Aventis Pharma Deutschland GmbH v. Lupin, Ltd., 499 F.3d 1293, 1301 (Fed. Cir. 2007) (citing KSR, 550 U.S. at 418). When identifying this reasoning, "[w]e must still be careful not to allow hindsight reconstruction of references to reach the claimed invention without any explanation as to how or why the references would be combined." Innogenetics, N.V., v. Abbott Labs., 512 F.3d 1363, 1374 n.3 (Fed. Cir. 2008).

While KSR eschewed a rigid teaching, suggestion, or motivation ("TSM") test, in the wake of KSR, the Federal Circuit has continued to utilize a flexible TSM test and observed that "a flexible TSM test remains the primary guarantor against a non-statutory hindsight analysis." Ortho-McNeil Pharm., Inc. v. Mylan Labs. Inc., 520 F.3d 1358, 1364 (Fed. Cir. 2008). As stated by the Federal Circuit, the flexible TSM test:

merely assures that the obviousness test proceeds on the basis of evidence – teachings, suggestions (a tellingly broad term), or motivations (an equally broad term) – that arise before the time of the invention as the statute requires.

Id. at 1365. Addressing motivation in the prior art protects against the use of impermissible hindsight. In re Kahn, 441 F.3d at 986. Sources for motivation include the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In re Rouffet, 149 F.3d at 1357.

Additionally, dependent claims are nonobvious if the independent claims from which they depend are nonobvious. Ortho-McNeil Pharm., 520 F.3d at 1365 (quoting In re Fritch, 972 F.2d 1260, 1266 (Fed. Cir. 1992)).

Claim 4:

Phillips is generally directed to optically variable security devices. More specifically, Phillips is directed to a color shifting optical coating that can be used to form security articles. See Phillips Abstract. This color shifting optical coating can be applied over an embossed diffraction structure. See Phillips Para. [0023].

Claim 4 includes all the limitations of claims 1 and 76 as discussed above, and additionally the limitation of “the area has a transparent plastic layer, in which the diffraction structure is present in the form of a relief structure, that the first reflection layer is disposed on the surface of the plastic layer which is provided with the diffraction structure, and that the opposite surface of the plastic layer has a second reflection layer, wherein the subareas are formed by gaps in the first reflection layer.” Neither Phillips nor Schmitz, as discussed above, teach or suggest each and every limitation of claim 4. For at least this reason, the rejection of claim 4 is improper and should be reversed.

Additionally, the Examiner, in making the improper rejection, left out a key claim term. Specifically, the Examiner stated: “Schmitz disclose[s] (e.g. figure 8) a security element characterized in that the area has a transparent plastic layer (13, transparent lacquer layer)...that the first reflection layer (14, reflecting layer) is disposed on the surface of the plastic layer which is provided with the diffraction structure, and that the opposite surface of the plastic layer has a second layer (magnetic layer).” See Final Office Action dated October 1, 2009, p. 7. However, the Examiner, presumably through inadvertent error, left out only one word when quoting the

limitation of claim 4. Specifically, the Examiner references a “second layer (magnetic layer)” whereas the claim recites a “second reflection layer.” The Examiner makes no argument for why the magnetic layer is such a reflection layer. Because there is nothing in Schmitz that indicates that the magnetic layer is a reflection layer, Schmitz fails to disclose this limitation. For this additional reason, the rejection is improper and should be reversed.

Claim 5:

Claim 5 includes all the limitations of claims 1, 4, and 76, as discussed above, additionally the limitation of “the first and second reflection layer are made of materials having substantially the same reflecting properties.” All of the arguments made above with regard to claims 1, 4, and 76 likewise apply to claim 5. Because Phillips fails to cure the defects of Schmitz, as discussed above, the rejection of claim 5 is improper and should be reversed.

Additionally, the Examiner argues that Phillips discloses a first and a second reflection layers. Specifically, the Examiner states: “Phillips et al. teach (e.g., figure 1) a security device wherein a first reflection layer (18, semi-opaque absorber layer) and a second reflection layer (22, reflector layer) are both made of reflective aluminum [0063, 0068].” See Final Office Action dated October 16, 2009, p. 7. This argument on its face demonstrates that the Phillips does not disclose a first and second reflection layers. In Phillips, the semi-opaque absorber layer acts just as its name suggests, absorbing radiation in the form of light. The absorbing of light is the opposite of the reflecting of light. Thus, Phillips discloses only one reflective layer. For this additional reason, the rejection of claim 5 is improper and should be reversed.

Claim 10:

Claim 10 includes all the limitations of claim 9, as discussed above, and additionally the limitation of “the area has a transparent plastic layer, in which the diffraction structure is present in the form of a relief structure, and that the first reflection layer is disposed on the surface of the plastic layer which is provided with the diffraction structure, wherein the subareas are formed by gaps in the first reflection layer.” All of the arguments made above with regard to claim 9 likewise apply to claim 10. Because Phillips fails to cure the defects of Schmitz, the rejection of claim 10 is improper and should be reversed.

Claim 11:

Claim 11 includes all the limitations of claims 9 and 10, as discussed above, and additionally the limitation of “the opposite surface of the plastic layer has a second reflection layer, wherein the first and second reflection layer are made of differently-colored materials.” All of the arguments made above with regard to claims 9 and 10 likewise apply to claim 11. Because Phillips fails to cure the defects of Schmitz, the rejection of claim 11 is improper and should be reversed.

The Examiner again ignores the clear language of Phillips and asserts that the semi-opaque absorber layer 18 of Phillips is the “second reflection layer,” as recited in claim 5. This is the same argument that was made with regard to claim 5, as discussed above. Again, this argument on its face demonstrates that Phillips does not disclose a first and second reflection layers. In Phillips, the semi-opaque absorber layer acts just as its name suggests, absorbing radiation in the form of light. The absorbing of light is the opposite of the reflecting of light. Thus, Phillips discloses only one reflective layer. For this additional reason, the rejection of claim 11 is improper and should be reversed.

Claim 59:

Claim 59 includes all the limitations of claims 5, 1, 4, and 76, as discussed above, and additionally the limitation of “said materials are the same material.” All of the arguments made above with regard to claims 5, 1, 4, and 76 likewise apply to claim 59. Because Phillips fails to cure the defects of Schmitz, the rejection of claim 59 is improper and should be reversed.

Claim 62:

Claim 62 includes all the limitation of claims 9, 10, and 11, as discussed above, and additionally the limitation of “said materials are differently-colored metals.” All of the arguments made above with regard to claims 9, 10, and 11 likewise apply to claim 62. Because Phillips fails to cure the defects of Schmitz, the rejection of claim 62 should be reversed.

Claim 63:

Claim 63 includes all the limitation of claims 9, 10, 11, and 62, as discussed above, and additionally the limitation of “said metals are at least one of aluminum, copper or gold.” All of the arguments made above with regard to claims 9, 10, 11, and 62 likewise apply to claim 63. Because Phillips fails to cure the defects of Schmitz, the rejection of claim 63 should be reversed.

Conclusion

Based on the foregoing, Appellants respectfully submit that all grounds of rejection of claims 1-5, 9-12, 39, 48, 59, 62, 63, and 76 are submitted to be unsupportable on the record and thus improper. The Honorable Board is therefore respectfully requested to reverse all grounds of rejection and to direct the passage of this application to issue.

Please charge any fee or credit any overpayment pursuant to 37 CFR §§ 1.16 or 1.17 to Deposit Account No. 02-2135.

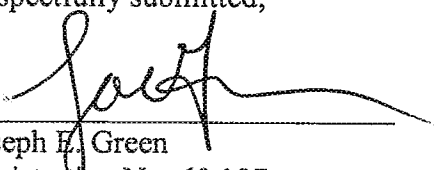
**CONTINGENT AUTHORIZATION TO CHARGE DEPOSIT ACCOUNT AND
CONTINGENT PETITION FOR EXTENSION OF TIME**

Unless a check for the present Brief on Appeal is submitted herewith for the fee required under 37 C.F.R. §§ 1.192(a) and 1.17(c), please charge said fee to Deposit Account No. 02-2135.

Appellants hereby petition for any extension of time which may be required to maintain the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 02-2135.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

The following claims are involved in this appeal:

1. A security element, which has at least one area with a diffraction structure embossed during an embossing process with an embossing die, which under specific viewing conditions reconstructs a diffractive image, wherein the area has subareas being free of any diffraction structures, the subareas do not take part in the reconstruction of the diffractive image and represent a recognizable information, wherein the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties under viewing conditions, under which the diffraction structure does not represent a diffractive image, so that the recognizable information represented by the subareas is recognizable substantially only under the specific viewing conditions and wherein at least one of said subareas is produced during the embossing process with the embossing die already providing the at least one of said subareas being free of any diffraction structures.
2. The security element according to claim 1, characterized in that the area has a first reflection layer, which supports the reconstruction of the diffractive image.
3. The security element according to claim 76, characterized in that the subareas have no diffraction structure, and that the first reflection layer is disposed in both the area of the diffraction structure and the area of the subareas.
4. The security element according to claim 76, characterized in that the area has a transparent plastic layer, in which the diffraction structure is present in the form of a relief structure, that the first reflection layer is disposed on the surface of the plastic layer which is provided with the diffraction structure, and that the opposite surface of the plastic layer has a second reflection layer, wherein the subareas are formed by gaps in the first reflection layer.

5. The security element according to claim 4, characterized in that the first and second reflection layer are made of materials having substantially the same reflecting properties.

9. A security element, which has at least one area with a diffraction structure embossed during an embossing process with an embossing die, which under specific viewing conditions reconstructs a diffractive image, wherein the area has subareas being free of any diffraction structures, the subareas do not take part in the reconstruction of the diffractive image and represent a recognizable information, wherein the subareas form a not diffractive contrast image, so that the recognizable information represented by the subareas is recognizable under viewing conditions differing from the specific viewing conditions of the diffractive image and wherein at least one of said subareas is produced during the embossing process with the embossing die already providing the at least one of said subareas being free of any diffraction structures.

10. The security element according to claim 9, characterized in that the area has a transparent plastic layer, in which the diffraction structure is present in the form of a relief structure, and that the first reflection layer is disposed on the surface of the plastic layer which is provided with the diffraction structure, wherein the subareas are formed by gaps in the first reflection layer.

11. The security element according to claim 10, characterized in that the opposite surface of the plastic layer has a second reflection layer, wherein the first and second reflection layer are made of differently-colored materials.

12. The security element according to claim 9, characterized in that the area is disposed on a transparent carrier, so that the information represented by the subareas is recognizable in transmitted light.

39. A method for producing a security element, comprising

- embossing during an embossing process with an embossing die at least one area with a diffraction structure, which under specific viewing conditions reconstructs a diffractive image,
- producing subareas of the area which do not take part in the reconstruction of the diffractive image, represents a recognizable information, and are integrated in the area with the diffraction structure such that the subareas and the diffraction structure surrounding the subareas have the same or at least very similar reflecting properties under viewing conditions, under which the diffraction structure does not represent a diffractive image, so that the recognizable information represented by the subareas is recognizable mainly only under the specific viewing conditions of the diffractive image, wherein at least one of said subareas is produced during the embossing process with the embossing die already providing the at least one said subareas being free of any diffraction structures.

48. A method for producing a security element, comprising

- embossing during an embossing process with an embossing die at least one area with a diffraction structure, which under specific viewing conditions reconstructs a diffractive image,
- producing subareas of the area which do not take part in the reconstruction of the diffractive image, represent a recognizable information and are integrated in the area with the diffraction structure such that the subareas form a not diffractive contrast image, so that the recognizable information represented by the subareas is recognizable under viewing conditions differing from the specific viewing conditions of the diffractive image, wherein at least one of said subareas is produced during the embossing process with the embossing die already providing the at least one of said subareas being free of any diffraction structures.

59. The security element of claim 5 wherein said materials are the same material.

62. The security element of claim 11 wherein said materials are differently-colored metals.

63. The security element of claim 62 wherein said metals are at least one of aluminum, copper or gold.

76. The security element of claim 1, wherein the information represented by the subareas is recognizable substantially only under the specific viewing conditions of the diffractive image.

IX. EVIDENCE APPENDIX

There has been no evidence submitted to or entered by the Examiner that is being relied upon by the Appellants in this appeal.

X. RELATED PROCEEDINGS APPENDIX

There have been no decisions by a court or the Board in any related proceedings.